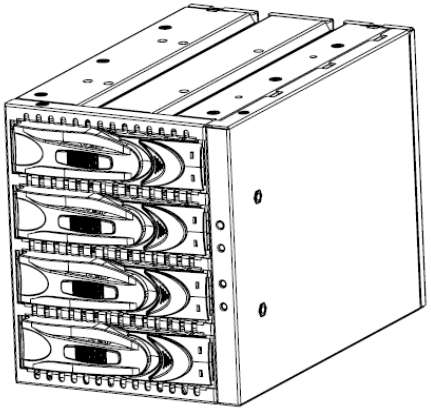
# 3-4 SAS/SATA II HDD Canister

## Deluxe version

XC-34D1-SA1C-0-R



# USER'S MANUAL

**Document number: MAN-00078-B**

## Preface

**Important Information**

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**Safety Precautions**

Before getting started, please read the following important cautions:

- All cautions and warnings on the equipment or in the manuals should be noted.
- Most electronic components are sensitive to electrical static discharge, therefore, be sure to ground yourself at all times when installing the internal components. Use a grounding wrist strap and place all electronic components in static-shielded devices. Grounding wrist straps can be purchased in any electronic supply store.
- Do not open the system's top cover. If opening the cover for maintenance is a must, only a trained technician should do so. Integrated circuits on computer boards are sensitive to static electricity. Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.
- Place this equipment on a reliable surface when install. A drop or fall could cause injury.
- Please keep this equipment from away humidity.
- Do not leave this equipment in an environment unconditioned, out of operation or storage temperature range may damage the equipment.
- Never pour any liquid into ventilation openings This could cause fire or electrical shock.
- Make sure the voltage of the power source is within the specification on the label when connecting the equipment to the power outlet. The current load and output power of loads shall be within the specification.
- This equipment must be connected to reliable grounding before using.
- Place the power cord out of the way of foot traffic. Do not place anything over the power cord. The power cord must be rated for the product, voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
- If the equipment is not used for a long time, disconnect the equipment from mains to avoid being damaged by transient over-voltage.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- If one of the following situations arise, the equipment should be checked by service personnel:
  - ✓ The power cord or plug is damaged.
  - ✓ Liquid has penetrated the equipment.
  - ✓ The equipment has been exposed to moisture.
  - ✓ The equipment does not work well or will not work according to its user's manual.



  - ✓ The equipment has been dropped and/or damaged.
  - ✓ The equipment has obvious signs of breakage.
  - ✓ Please disconnect this equipment from the AC outlet before cleaning. Do not use liquid or detergent for cleaning. The use of a moisture sheet or cloth is recommended for cleaning.

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## CHAPTER 1 INTRODUCTION

### 1.1 Key features

- Support four 3.5” SAS and/or SATA II hard disk drives (HDD) on 3 ODD Bays space.
- Enclosure management controller chip on board
- SFF8448 compliance SGPIO interface Support through one SFF8087 mini SAS 4i connector
- Support direct HDD Activity/Fault LEDs signal input
- Support HDD Activity LEDs directly from SAS/SATA II HDD
- Support buzzer alarm
- Support buzzer-mute button
- Support Power on, FAN fail, Over temperature LED indicator
- Support Fan Control automatic by temperature

### 1.2 Unpacking list

Before removing the subsystem from the shipping carton, visually inspect the physical condition of the shipping carton. Exterior damage to the shipping carton may indicate that the contents of the carton are damaged. If any damage is found, do not remove the components； contact the dealer where the subsystem was purchased for further instructions. Before continuing, first unpack the subsystem and verify that the contents of the shipping carton are all there and in good condition.

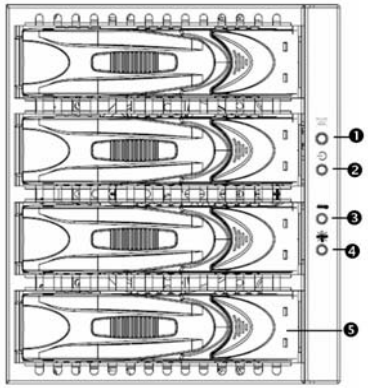
The package contains the following items：

- One set with HDD tray x 4 (Shipping without HDD installed)
- Mounting screws x 16
- Jumper x 2

**Note：**Inspect the shipping cartons for evidence of physical damage. If a shipping carton appears damaged, request that the carrier's agent be present when the carton is opened. Keep all contents and packing material for the agent's inspection.



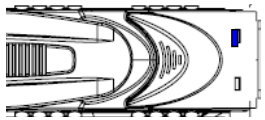
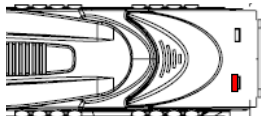
### 1.3 Front Panel Features



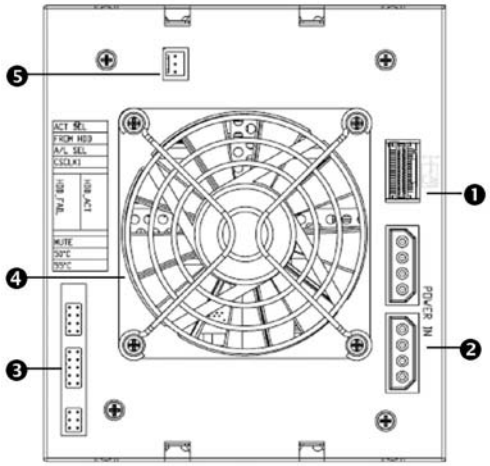

1.3.1 front view of 3 to 4 canister

| | | |
|---|---|---|
| ❶ Buzzer mute | ❷ Power LED | ❸ Over Temperature LED |
| ❹ Fan Fail LED | ❺ Drive tray | |

**LED indicators**

| LED NAME | Color definition | Behavior |
|---|---|---|
| Power LED | Blue | On：when system is powered on<br>Off：when system is powered off |
| Over Temperature LED | Red | On：when system temperature exceeds threshold temperature<br>Off：when system temperature is normal. |
| Fan fail LED | Red | On：when system detected fan abnormality<br>Off：when fan is normal operation |
|  | HDD Activity/Ready：<br>Blue color | On：when HDD is inserted and detected.<br>Flash：when accessing HDD<br>Off：when there is no HDD or no detection. |
|  | HDD Failure：<br>Red color | On：when HDD is detected as failure by host<br>Flash：RAID rebuilding<br>Off：when there is no HDD or normal<br>(only supported on HBA) |

**1.4 Rear Panel Features**




1.4.1 rear view of 3 to 4 canister

| | |
|---|---|
| ❶ miniSAS host connector | ❷ Power input connectors |
| ❸ Over-Temp Threshold ,Buzzer Setting and HDD Fail LED Input | |
| ❹ Fan | ❺ Fan connector |

## More details as below

◆ MiniSAS Host Connector

A 36-pin Mini SAS connector is used for 4 SAS channels and sideband signals.

| Signal | Connector Pins |
|---|---|
| Rx 0+ | A2 |
| Rx 0- | A3 |
| Rx 1+ | A5 |
| Rx 1- | A6 |
| Sideband 0 | A8 |
| Sideband 1 | A9 |
| Sideband 2 | A10 |

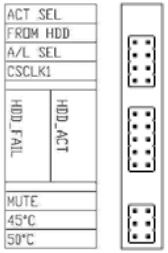


| | |
|---|---|
| Side band 6 | A11 |
| Rx 2+ | A13 |
| Rx 2- | A14 |
| Rx 3+ | A16 |
| Rx 3- | A17 |
| Tx 0+ | B2 |
| Tx 0- | B3 |
| Tx 1+ | B5 |
| Tx 1- | B6 |
| Sideband 7 | B8 |
| Sideband 3 | B9 |
| Sideband 4 | B10 |
| Sideband 5 | B11 |
| Tx 2+ | B13 |
| Tx 2- | B14 |
| Tx 3+ | B16 |
| Tx 3- | B17 |
| SIGNAL GROUND | A1,A4,A7,A12,A15,A18, B1,B4,B7,B12,B15,B18 |
| N/C = not connected | |

◆ Power input connectors

Four-pin standard power connectors for +12V/+5V/GND

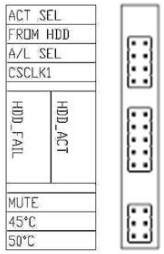
◆ HDD Activity / Fail LED Input




(1) For some HBAs supporting HDD Fail signal output: If used, this connector should be connected with HDD Fault signal from HBA by external cable.

(2) For some HBAs supporting HDD Activity output: If used, this connector should be connected with HDD Activity signal from HBA external cable.

(3) It's left to open, as default, when HBA doesn't support it.




| Pin | Status | Description |
|---|---|---|
| 1,2 | Open | Disable External Access LED input |
| | Close | Enable External Access LED input |
| 3,4 | Open | Access LED from HDD Pin P11 |
| | Close | Access LED from SGPIO |
| 5,6 | Open | SGPIO Bit2 is HDD Fail, Bit3 is HDD ID ex. ARECA |
| | Close | SGPIO Bit2 is HDD ID, Bit3 is HDD Fail ex. LSI |
| 7,8 | Open | Disable SGPIO |
| | Close | Enable SGPIO |

| Pin Number | Description | Pin Number | Description |
|---|---|---|---|
| 1 | GND | 2 | GND |
| 3 | HDD 0 Fail Input | 4 | HDD 0 Activity Input |
| 5 | HDD 1 Fail Input | 6 | HDD 1 Activity Input |
| 7 | HDD 2 Fail Input | 8 | HDD 2 Activity Input |
| 9 | HDD 3 Fail Input | 10 | HDD 3 Activity Input |

| Pin Number | Description |
|---|---|
| 1.2 | Mute |
| 3.4 | 45℃ |
| 5.6 | 50℃ |

◆ Fan Connectors

| Pin Number | Description |
|---|---|
| 1 | GND |
| 2 | +12V |
| 3 | Tach |

※ A 3-pin fan connector with failure detection

※ The canister also supports to be managed by IPMI interface



**1.5 SGPIO and SES II Support via Sideband Signals of 36-pin mini SAS**

The backplane is designed with one 36-pin mini SAS 4i connector which includes sideband input for LED control. See Table 3 for the pin assignment of the sideband inputs. The sideband on this product supports SGPIO (SFF8485).

**SGPIO**

SGPIO currently supports the behavior of HDD Activity and Fault LEDs. The implementation of SGPIO is vender specific its SGPIO behavior. The HBA, RAID card, or M/B has to implement SGPIO following SFF8448 pin assignment.

Please check with your HBA/RAID card/MB vendor for details.

Please check with your AIC/Xtore contact window for the latest support of HBA.

(Some HBAs do not support Activity LED even they use SGPIO)

The pin assignment of the Sideband inputs follows SFF-8448 specifications.

| Signal | SGPIO |
|---|---|
| Sideband 0 | SClock |
| Sideband 1 | SLoad |
| Sideband 2 | Ground |
| Sideband 3 | Ground |
| Sideband 4 | SDataOut |
| Sideband 5 | SDataIn |
| Sideband 6 | Controller Type |
| Sideband 7 | Backplane Type |
| **JP1** is used to configure the type. | |

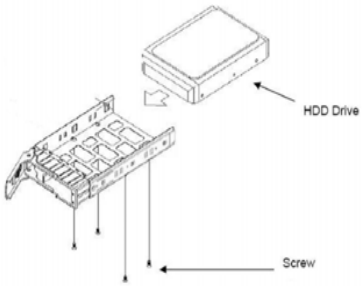
## CHAPTER 2 INSTALLATION OVERVIEW

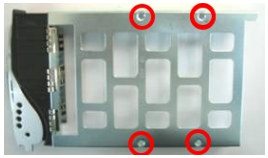
**Warning**：Before you remove or install the unit, make sure the unit is not turned on or connected to the AC power.

### 2.1 Removing the HDD Tray from the enclosure

1. Press the latch to the right by the thumb.
2. Pull the tray door outward by the forefinger at the same time.

3. Remove the HDD tray from the enclosure
4. Install the four mounting screws to secure the drive in the disk tray.



Bottom view of HDD tray

5. Slide the tray into a slot. Press the tray handle until the latch is closed and locks into place.